Project San Juan River Reservation: solving from urban planning

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PROJECT COORDINATOR: Local Urban Planning Office

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**Place:** Fuentidueño Town - San Juan Bautista Sector, Margarita. Nueva Esparta State

**Problem-Need**: How does affect the lack of urban planning in the degradation of the San Juan River?

**Justification:** It’s important to identify the causes of degradation of the San Juan river and thus determine the appropriate measures and implement a urban plan to safeguard the waters of the river of the pollution, as it not only threatens biodiversity and ecosystem of this watershed but also affect the humans.

**General objective:** Analyze the influence of the absence of urban planning in the village of Fuentidueño in the pollution in San Juan River.

**Specific Objectives:**

Finding the causes of pollution of the San Juan River.

Indicate the types of pollution that are caused by the lack of an urban planning of the sector under study.

Identify the effects produced on biodiversity and humans.

Running a urban plan to solve the problems in this sector.

**Development**

The San Juan river is located in the San Juan valley, belonging to the Municipality Diaz of the Margarita Island in the Nueva Esparta State, Venezuela. The San Juan River was born in the area of ​​Cerro Copey in Palma Real and empties into the Laguna de Las Marites. The main rivers have a course, which is the distance between its source and its mouth. We can distinguish the San Juan River in three parts:

1. Advanced Course: From the Palma Real Sector to Las Barrancas Sector.

2. Middle Section: From Las Barrancas Sector to the Datil Sector.

3. Lower Section: El Datil Sector to Laguna de Las Marites.

The first is an area that is registered as a National Park Cerro Copey, enacted under the number 1632 in 1974. The second is a more visible section of the river and this is an artificial channel that carries water reservoir directly to San Juan. The third section is a developed population, with more people and different activities.

A good proportion of the inhabitants of Fuentidueño dispose of the water of San Juan river for domestic use. Part of the artificial channel runs through the village with a distance of about 3 km and subsequently served as the basis for the construction of houses and nowadays they are sidewalks. It measures about half meter in height and is enclosed by a gate of concrete, steel and beams to prevent contamination. However, part of Fuentidueño does not have gutters or sewers, which is why people divert the sewage to the river banks and others to the artificial channel that faces the San Juan Reservoir. All these wastes that flow into the reservoir weakens their main function that is to supply drinking water to all nearby towns in an emergency. Virtually the reservoir is inoperative in any contingency.

Moreover, the presence of household waste and other pollutants, alter the aquatic flora and fauna. As the water runs its course, breaks the balance of the ecosystem by the presence of foreign material.

The San Juan River is the main source of drinking water supply of the population of San Juan Bautista. Contamination limits the availability of this resource essential for life.

How can we solve the problem in the urban scope?

It takes place and implements a urban plan to provide the Fuentidueño population, a sewer network, allowing the collection of sewage from the entire population and bring them to the treatment plant located in the Lower River. This requires:

Delineate areas through topographic maps, with no sewer service.

Separate storm sewers and sewage network pipes because these can be saturated.

Connect drains and sewers with lift network that allows going to all populations and connecting with the treatment plant of the third sector.

Segmenting the proyect in parts to not to obstruct the passage of people and cars.

Improve the gate of the dam because it is deteriorated by time and assign a more resistant material. This can be reinforced concrete.